



DO 924

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT

In the application of:)
Hughes et al) Group Art Unit: 1771
Serial No. 09/761,331) Examiner: Vo, H.
Filed: January 16, 2001)
For: COMPOSITES USEFUL AS FENCE)
AND DECKING COMPONENTS)

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OCTOBER 15, 2003
Frank J. Uxa
att
Title
Date 10/15/03

Commissioner for Patents
Mail Stop RCE
P.O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL LETTER RE DECLARATION

Sir:

Transmittal herewith is the Declaration of Dr. Chris J. Rauwendaal Under 37 CFR 1.132.

Respectfully submitted,

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HUGHES ET AL

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For: COMPOSITES USEFUL AS FENCE

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AND DECKING COMPONENTS AND

)

METHODS FOR PRODUCING SAME

)



DECLARATION OF DR. CHRIS J. RAUWENDAAL
UNDER 37 CFR 1.132

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Dear Sir:

I, Dr. Chris J. Rauwendaal, declare and state as follows:

1. My educational background includes receipt of a post graduate degree in Mechanical Engineering from Delft University of Technology (in 1973); and a Doctorate in Mechanical Engineering, specializing in Polymer Processing, from Twente University of Technology (in 1988).

2. For the past thirty (30) years to the present, I have been involved in the development, design and operation of polymer processes and equipment used in such processes. For the past thirteen (13) years to the present, I have been President of Rauwendaal Extrusion Engineering, Inc., providing design services, problem solving, process/material analysis, extrusion equipment and training for the worldwide polymer processing industry.

3. I am an inventor of seven (7) U.S. Patents and have written over one hundred publications, seven (7) books and five (5) book chapters. The vast majority of these patents, publications, books and chapters are directed to polymeric materials and/or polymer processing.

4. As a result of my education, experience and accomplishments, I believe I am an expert in the field of polymeric materials and polymer processing.

5. I have reviewed Sandt U.S. Patent 5,858,493, which has been cited against the claims of U.S. Patent Application Serial No. 09/761,331, filed January 16, 2001. In general, the Sandt Patent discloses structural element composites, for example, in the form of poles, made of two concentric sleeves separated by a space filled with a solid polymeric material including reinforcing fibers or filaments running lengthwise of the composite. A method of making these composites is also disclosed by the Sandt Patent.

6. At column 4, lines 61-62, the Sandt Patent refers to the "reactive resin" used in the space between the sleeves or in the central core of the disclosed composites as a thermoplastic resin. For the reasons detailed below, in my expert opinion, this single reference in the Sandt Patent to the reactive resin being a thermoplastic resin is completely erroneous.

7. Each of the "reactive resins" specifically disclosed by the Sandt Patent is a thermosetting resin. In addition, the Sandt Patent, at column 4, lines 5-8, discloses that in making the composite, the larger sleeve is tilted downward to cause the liquid reactive resin introduced inside the sleeve to gravitate toward the small end of the sleeve. This method of making the composites disclosed in the Sandt Patent is useful only if the reactive resin is a thermosetting material. Gravity is

insufficient to cause a liquid or molten thermoplastic resin introduced into a sleeve to perform as disclosed in the Sandt Patent. Put another way, using gravity to cause a resin to gravitate to the small end of a sleeve would not be effective, that is would be inoperative, if the reactive resin was made up of a thermoplastic material.

8. The Sandt Patent includes several references, both express and implied, to the reactive resin being a thermosetting material. For example, see claims 3 and 10 of the Sandt Patent. Also, the Sandt Patent discloses, at column 4, lines 66-67, that heat is applied to harden or set the reactive resin. It is well known in the field of polymeric materials and polymer processing that heat is used to harden thermosetting materials; while heat is used to soften thermoplastic materials. Thus, the disclosure of the Sandt Patent that heat is used to harden the reactive resin leads to the conclusion that the reactive resin of the Sandt Patent is a thermosetting material.

9. When considered in its entirety and in its full context, the Sandt Patent makes clear that the "reactive resin" is a thermosetting material, and is not a thermoplastic material.


10. In view of the above, the use of the term "liquid thermoplastic material", at column 4, line 62 of the Sandt Patent is without basis in fact and is clearly and without doubt incorrect.

11. A three layer composite formed by coextrusion and containing a middle or core layer containing thermoplastic material, as claimed in U.S. Patent Application Serial No. 09/761,331 is different and distinct from the composites disclosed in the Sandt Patent, which composites include a central core made up of a thermosetting material.

12. The Sandt Patent does not disclose coextruded composites. The Sandt Patent discloses only composites including a core of thermosetting material separately placed between two separately produced sleeves. Moreover, for the reasons given above, the Sandt Patent discloses only composites which include central cores made up of thermosetting materials. Therefore, in my expert opinion, the Sandt Patent provides no basis for even trying to provide, let alone for actually providing, a three layer coextruded composite having a middle or core layer of thermoplastic material.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the above-identified reissue application or any patent issuing therefrom.

Executed on this 13th day of OCTOBER, 2003,
in SANTA CLARA County, California



CHRIS J. RAUWENDAAL